Saidur Rahman

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EDUCATION

Montana State University — **Bozeman, MT, USA**
Ph.D. Candidate in Computer Science GPA: 3.86/4.0 — *Expected Graduation: Fall 2022*

Montana State University — **Bozeman, MT, USA**
MS in Computer Science GPA: 3.85/4.0 — *Graduated: December 2021*

University of Dhaka — **Dhaka, Bangladesh**
BS in Computer Science & Eng. GPA: 3.55/4.0 — *Graduated: June 2016*

SKILLS

- **Programming Languages:** Python (4 years), C/C++ (4 years), Java, NodeJS, Bash
- **Databases & Other Technologies:** Redis, Google Cloud PubSub, Firebase, MongoDB, PostgresSQL, RethinkDB, Realm, MySQL, SQLlite, Cross Platform (Mac, Linux, Windows), Multi-Processing, Multi-Threading, Parallel Computation, System Design, API & Bash, Containerization, Virtualization, Mininet (SDN), Docker, Kubernetes, CRIU, Microservices, Amazon AWS (Lambda, EC2, SQS, S3, Greengrass, IoT), OpenGL, OpenCV

RESEARCH

- **Ph.D. Topic:** Developing Edge and Micro-service API for dynamic program checkpointing, runtime handling, state offloading and optimal task placements
  - Python, Docker Swarm, Pyrasite(dynamic code injection), Python bytecode interpreter stack and pointer
  - Scheduling: MeDICINE (mininet-docker SDN simulator)
  - Overhead Prediction: Supervised ML Model

EXPERIENCE

Meta (Facebook System and Infrastructure Connectivity Team) — **Menlo Park, CA**
PhD Software Engineering Internship — *Intern Summer 2022*

Montana State University — **Bozeman, MT**
Graduate Research & Teaching Assistant — *Aug 2017 - Present*

- Courses (TA): Data Structure & Algorithm, Discreet Math, Computer Networks, Concept of Programming Language
- Development (RA): Realtime Edge framework for cognitive workload & physiological signal in Mixed Reality based Human Robot Interaction.

Samsung Research & Development — **Dhaka, Bangladesh**
Software Engineer — *Sep 2016 – Dec 2016*

Developed stitch engine for 360 panorama pictures and videos for Samsung Gear 360 device.

- Tools: Objective-C, OpenCV| link

SELECTED PROJECTS

Augmented Learning Innovation | AMELIA | Funded by NSF — *Aug 2019 - Present*

Developing cognitive states between human-robot using Realtime Machine Learning, Mixed reality application and human physiological signal data deployed on Edge. | link

- Tools: Edge Cluster, Python, Real-Sense Camera, Universal Robot, BIOPAC sensors, Unity, Hololen 2

Unstable Slope Management Program | Funded by FHP — *Aug 2018 - Present*

Developing tools for USMP project to manage slope information for geologists in National Park, Federal Highway Partners.

- Tools: React Native, PHP, Realm, MySQL, AWS EC2 and S3 | link

SELECTED PUBLICATIONS

1. **Dynamic Checkpoint Initiation in Serverless MEC** — *2020*

Saidur Rahman, Apostolos Kalatzis, Mike P. Wittie, Laura Stanley; Published in IEEE COINS 2022

2. **Short and Sweet Checkpoints for C-RAN MEC** — *2021*

Saidur Rahman, Mike P. Wittie, Ahmed Elmokashfi, Laura Stanley, Stacy Patterson, David L. Millman; Published in IEEE Cloud Summit 2021

3. **MR-DNS: Multi-Resolution Domain Name System** — *2019*

Saidur Rahman, Mike P. Wittie; Published in International Conference on Internet and Distributed Computing Systems

ACHIEVEMENT

- NSDI 2020 Student Travel Grant
- BD-Sweden Trust Higher Study Travel Grant 2019